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DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT
LANSING

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August 17, 2010

Mr. Michael Berkoff
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (SRF-6J)
Chicago, Illinois 60604-3507

Dear Mr. Berkoff:

SUBJECT: Comments on the Preliminary Design Report, Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site, Operable Unit 2: Willow Boulevard/A-Site Landfills

The Michigan Department of Natural Resources and Environment (DNRE), formerly known as the Department of Environmental Quality, has received and reviewed the Preliminary Design Report and Construction Drawings for the Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site, Operable Unit 2: Willow Boulevard/A-Site Landfill prepared by ARCADIS on behalf of Georgia-Pacific LLC. The DNRE appreciates the opportunity to assist the United States Environmental Protection Agency (USEPA) by providing comments on the Preliminary Design Report and Construction Drawings for the Willow Boulevard/A-Site Landfill. Comments are presented below corresponding to the specific sections of the report and/or plan set.

General Comments

As identified in Section 1 Excavation[1] of the 2009 Consent Decree Statement of Work (SOW), the "Settling Defendant shall excavate the Willow Boulevard Drainageway, the Area South of the A-Site Berm, the Area East of Davis Creek, and the former Olmstead Creek Area to the remedial action goal of 0.33 ppm [parts per million] PCB [polychlorinated biphenyl]. The areas to be so excavated are delineated on Figure 2 of the Record of Decision (ROD). The Settling Defendants shall excavate these four areas to the 0.33 ppm PCB cleanup goal...." Based on Figures 2-1, 2-3, 2-4, and 4-1, select portions of the Willow Boulevard Drainageway, the Area South of the A-Site Berm, and former Olmstead Creek Area has been designated as wetlands and will be excavated to the 0.33 ppm cleanup goal and any other portions will be excavated to meet a 6.5 ppm PCB cleanup goal. As indicated above, the Settling Defendants have agreed to excavate the entire Willow Boulevard Drainageway, the Area South of the A-Site Berm, the Area East of Davis Creek, and the former Olmstead Creek Area to the remedial

[1] United States of America v. Georgia-Pacific LLC, Civil Action No. 1-09-cv-429, Consent Decree, 2009, Appendix C Statement of Work for the Remedial Design and Remedial Action at the Willow Boulevard/A-Site Landfill, Operable Unit 2 of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Kalamazoo Township, Michigan.

action goal of 0.33 ppm PCB. The Preliminary Design Report and Construction Drawings do not reflect this agreement of the Consent Decree.

As identified in Section 1.1 Setback from Kalamazoo River at the Willow Boulevard Landfill of the SOW, "The excavation along the northern banks of the Willow Boulevard Landfill (along the Kalamazoo River) shall be of sufficient distance to create an adequate buffer zone, which ensure that, for the lifetime of the remedy, there is no direct contact between the contaminated residuals within the landfill and the Kalamazoo River. This buffer will also be adequate to prevent PCBs from migrating (by surface water runoff or erosion) from the landfill into the Kalamazoo River. The excavated areas shall be backfilled with clean soil with sufficient organic content to support restoration planting materials and to create an ecologically friendly bank. Additionally, this buffer zone or setback shall be of sufficient size to allow for the installation of and access to groundwater monitoring wells." The preliminary design presented in the Preliminary Design Report and Construction Drawings does not meet this requirement of the SOW.

The Preliminary Design Report references the discharge of water to the Kalamazoo River including treated drainage water, wash water, and storm water resulting from the gravity drainage and consolidation of excavated materials. These types of discharges will require a Substantive Requirements Document (SRD) from the DNRE. It will be necessary for the potentially responsible parties to work directly with the division of the DNRE that oversees these types of discharge to obtain an SRD in advance of the anticipated field start date as to not delay the remedial action.

Section 1.2 - Site Description
This section needs to include, by specific reference, that the former Olmstead Creek is considered to be a part of the Area South of A-Site Berm.

Section 1.2.2.1 - Area South of A-Site Berm
This section references a culvert between the Willow Boulevard and A-Site landfills that discharges storm water to the Kalamazoo River from the former Olmstead Creek drainageway. This section does not identify if the culvert will remain in place as a part of the remedial design.

Section 1.4 - Document Organization
This section states that the construction drawings will include all technical specifications to complete implementation of the remedy. The Construction Drawings do not include any technical specifications other than seeding specifications. It is not acceptable to omit specifications for materials, construction and installation methods, data requirements and collection methods, field engineering, etc. Technical specifications need to be developed to adequately describe the work to be completed.

Section 2.1.5 - OU-Specific Geology/Hydrogeology
This section references perched leachate at A-Site near monitoring wells AMW-6P, AMW-7P, AMW-9P, and AMW-10P. It is unclear if the perched leachate was accounted

for during slope stability calculations and if perched leachate will be removed as a part of this remedial design implementation.

Section 3.1.1.1 - Cleanup Standards
This section indicates that two different PCB criteria will be used throughout the site. This section should include a reference map to outline which criterion is applicable to which areas of the site.

Section 4 - Engineering Design
This section indicates a three year post-construction monitoring and maintenance period for seeded and planted areas. A three year period may not be adequate and the USEPA should consider a minimum monitoring and maintenance period of five years.

Technical specification sections for monitoring well installation and materials, gas vent and probe installation and materials, field engineering, waste consolidation, monitoring well abandonment, turf establishment, and decontamination have not been identified in this section. These technical specifications are necessary to adequately execute the remedial action.

Section 4.2.2 - Material Consolidation
This section identifies that materials excavated from the northern and western banks of Willow Boulevard Landfill and the Willow Boulevard Drainageway will be consolidated at the Willow Boulevard Landfill. The ROD (Section 9.1.2 Alternative 2, Consolidation and Containment of Select Materials) states "Under Alternative 2, approximately 13,800 cyd^3 of PCB-contaminated residual, soil, and/or sediment would be excavated from the Willow Boulevard Drainageway, the Area South of the A-Site Berm (including Former Olmstead Creek), the Area East of Davis Creek, and the area near monitoring well AMW-3A, and consolidated with existing residuals at the A-Site Landfill." The preliminary design presented in the Preliminary Design Report and Construction Drawings does not meet this requirement of the ROD.

Section 4.3.3 - Soil Erosion and Sedimentation Control
This section fails to acknowledge Part 91, Soil Erosion and Sedimentation Control, and Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), as applicable or relevant and appropriate requirements. Additionally, this section needs to identity how the substantive requirements of Part 91 and Part 31 will be addressed.

Section 4.5 - Groundwater Monitoring Network
This section indicates that each two-well cluster will consist of one shallow well screened across the water table and a deeper well screened to intercept flow approximately ten feet below the bottom of the shallower well. Part 201, Environmental Remediation, of the NREPA, requires groundwater/surface water interface monitoring to monitor the zones representative of the highest concentrations of contaminants. To adequately determine the zones representative of the highest concentrations of contaminants, vertical aquifer sampling (VAS) will be necessary, at least for the upper

30 feet of the aquifer. A five-foot interval for VAS is recommended for adequately placing monitoring wells in the upper 30 feet of aquifer at this site. A ten-foot profile interval may be used at greater depths (instead of five-foot intervals), unless contamination or the presence of low permeability units indicates otherwise. The groundwater samples collected from VAS should be analyzed for the list of constituents that will be monitored for in the long term, including metals Target Analytical List (TAL), mercury, cyanide, PCBs, dioxins, furans, semivolatile compound Target Cleanup Levels (TCL), and volatile organic compound TCL.

Water table wells should be constructed with five-foot screens set with one foot above the normal water table or with seven-foot screens set a minimum of two feet above the normal groundwater elevation.

This section indicates that if residuals are encountered at a monitoring well location, the corresponding well or wells will be installed a minimum of five feet below the base of the encountered residuals to reduce the likelihood of future groundwater sampling events detecting artificially mobilized contaminants. To monitor the zones representative of the highest concentrations of contaminants, it may be necessary to place monitoring wells in residual waste or downgradient of residual waste to determine compliance with Part 201. It may not be appropriate to install wells screened below the base of the encountered residuals, unless that is the zone representative of the highest concentration of contaminants.

Figure 7-1 - Summarized Remedial Design Schedule
Figure 7-1 shows 30 days review time for the Pre-Final Design Documents by the USEPA. Please be advised that the DNRE will require a minimum of 60 days to provide a sufficient review of the Pre-Final Design Documents, as many details of the remedial design have not been provided in the Preliminary Design Documents.

Appendix G
The Performance Standards Verification Plan (PSVP) should include a process that involves the USEPA and DNRE to determining post-excavation verification sampling locations and should meet all the requirements of the Michigan Department of Environmental Quality Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria, 2002.

The PSVP indicates that the groundwater samples will be submitted for laboratory analysis of PCBs. The Remedial Investigation/Focused Feasibility Study identified several contaminants above generic groundwater/surface water interface criteria. The groundwater samples collected for long-term monitoring should be analyzed for the metals TAL, mercury, cyanide, PCBs, dioxins, furans, semivolatile compound TCL, and VOC TCL.

The groundwater monitoring program should include an assessment of groundwater flow gradients before and during groundwater sampling activities. A condition of steady

state flow from the landfill toward the Kalamazoo River for two weeks prior to and during the sampling event is recommended.

The PSVP includes a proposal to reduce sampling from quarterly to annually after two years. Any reduction from a quarterly sampling schedule should be considered and evaluated by the USEPA and the DNRE before being implemented.

Appendix H
As identified in Section 4 of the SOW, the draft Construction Quality Assurance Project Plan shall be submitted with the preliminary design. The Preliminary Design Report does not meet this requirement of the SOW as only a preliminary outline of the Construction Quality Assurance Project Plan has been provided.

Sheet 5
This sheet does not include the lateral bottom slope of the swales that collect and direct storm water to the downchutes. A complete evaluation of the swales cannot be completed at this time.

Sheet 6
An additional gas vent may be necessary to adequately discharge landfill gases from the northeast end of the lateral gas collection pipe of the Willow Boulevard Landfill.

There are not any gas vents identified on the gas cutoff trench; however, Sheet 17, Detail 4, indicates gas vents will be constructed in the gas cutoff trench.

Sheet 7
The two southernmost wells on the east side of the A-Site Landfill should be relocated 100 to 120 feet to the north, to place the wells in an area downgradient of a larger mass of residual waste, once the remedial action is completed.

The proposed location of the Willow Boulevard upgradient wells is too close to the landfill to be considered an upgradient monitoring location. The drainage area and the potential mounding of groundwater at the Willow Boulevard Landfill could result in site contaminated groundwater influencing the groundwater at this location. It is recommended to move this location to the south.

Additional monitoring well locations may be necessary to monitor discharge of groundwater from the A-Site Landfill to Olmstead Creek. A monitoring well in the southern half of the A-Site Landfill compared to a staff gauge in Olmstead Creek could be used to determine if groundwater flows from the landfill to Olmsted Creek. If gradients exist toward Olmstead Creek, monitoring wells should be constructed along the creek for measuring compliance with groundwater/surface water interface criteria.

Sheet 8
This sheet indicates the landfill final cover for the Willow Boulevard Landfill terminates at the northern riparian corridor; however, Sheet 10, Cross Section 1, indicates the landfill cover to proceed down the slope to the elevation of the Kalamazoo River.

Sheet 10
The cross sections identify that the waste and liner profile will be constructed with grade breaks and opposing slopes. This type of cover system design will be difficult to construct and difficult to verify achievement of design grades. An alternate approach of the waste and liner system being constructed without opposing slopes should be considered.

Sheet 12
This sheet shows the geosynthetic drainage composite material to be discharging into the anchor trench. The drainage of water into the anchor trench is not a preferable discharge point.

Sheet 16
This sheet shows the subgrade downchute detail to carry storm water from the landfill cap to its discharge point. The design of an enclosed pipe system versus an open channel may present operation and maintenance difficulties for landfills without routine staff to monitor and maintain the downchute inlet pipes during storm events.

Detail 1 on this sheet does not specify the pipe diameter. An evaluation of the pipe capacity cannot be completed at this time.

Sheet 17
The vertical penetrations shown on this sheet should be designed to allow for movement of the pipe (gas vent for example) as a result of vertical settling of the waste materials without inducing strain on the liner system.

The DNRE recommends that the USEPA provides these comments to the potentially responsible parties for evaluations and incorporation into the Pre-Final Design for the Willow Boulevard/A-Site Landfill. The DNRE looks forward to assisting the USEPA with this site in the future. If you have any questions regarding these comments, please contact me at your earliest convenience.

Sincerely,

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